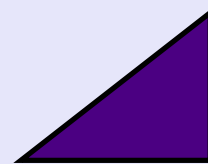
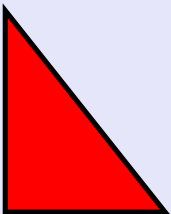
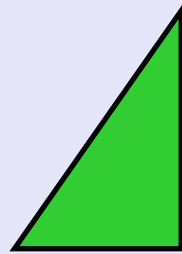


# *Pythagorean Theorem*



*Introduction*

*The Theorem*

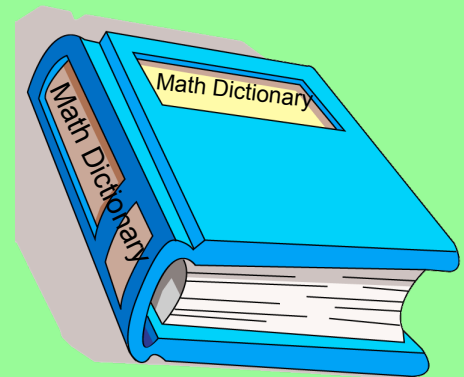
*Add to your Math Dictionary . . .*

## Pythagorean Theorem

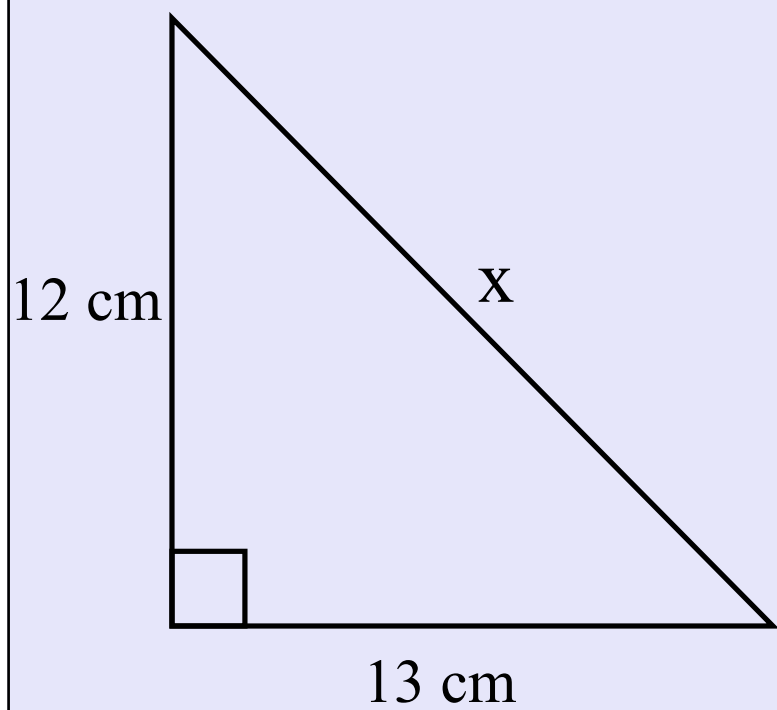
$$a^2 + b^2 = c^2$$

legs

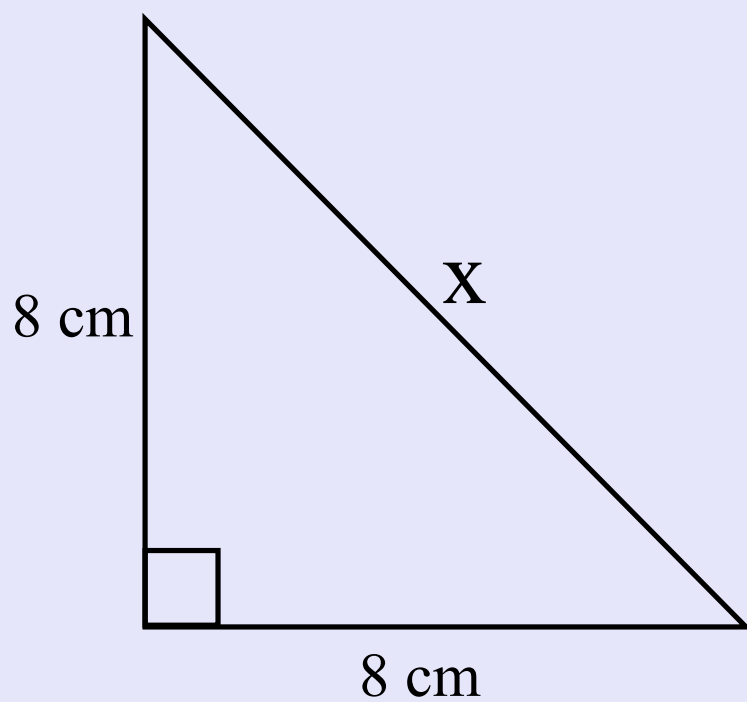
hypotenuse



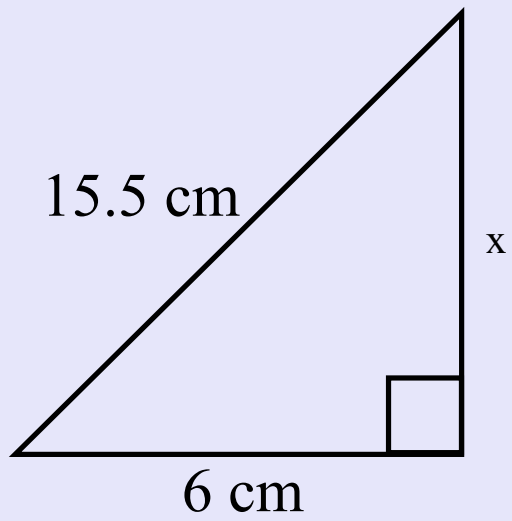
Example 1



Example 2



Example 3



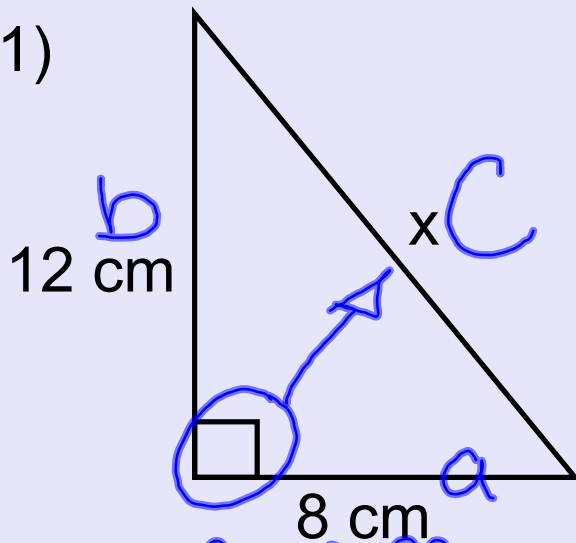
# *Planner Time*

*Let's Review*



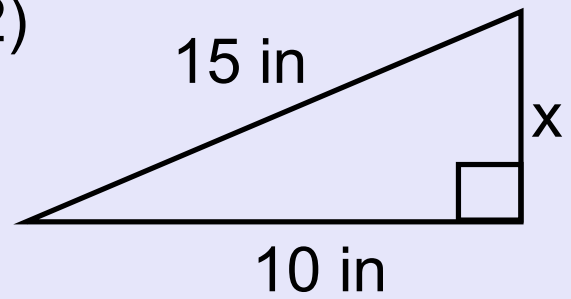
*Pythagorean  
Theorem  
Day Two*

1)



$$\begin{aligned}
 a^2 + b^2 &= c^2 \\
 8^2 + 12^2 &= x^2 \\
 64 + 144 &= x^2 \\
 \hline
 208 &= x^2
 \end{aligned}$$

2)



14.42 cm  
katte

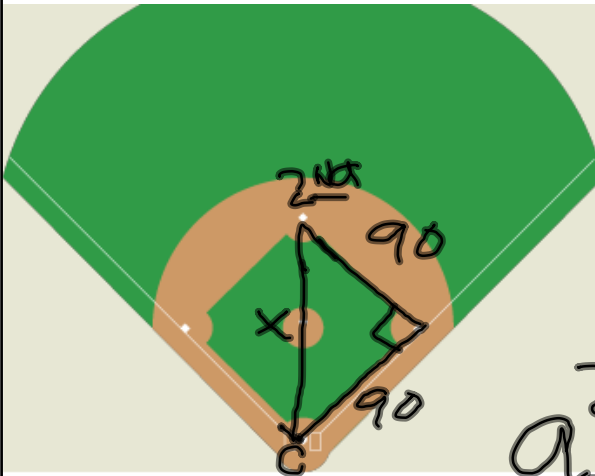
HINT: Draw and label the right triangle!

HINT: D

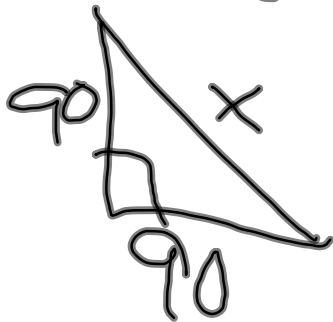


**A construction worker is fixing a building. The area that needs fixing is 30 feet above ground. How long does the ladder need to be to reach the area that needs repair if the bottom of the ladder needs to be positioned 5 feet away from the building?**





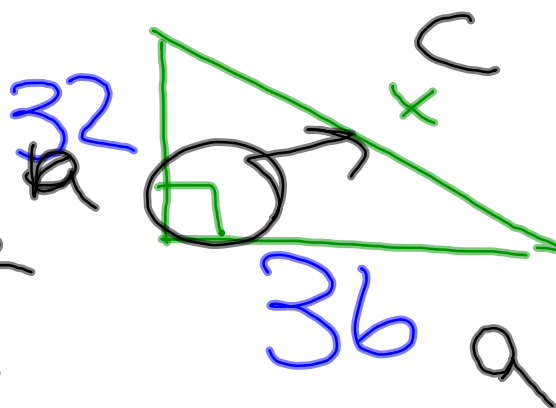
The distance between the bases on a baseball "square" is 90 feet. How far does the catcher need to throw the baseball to the second baseman?



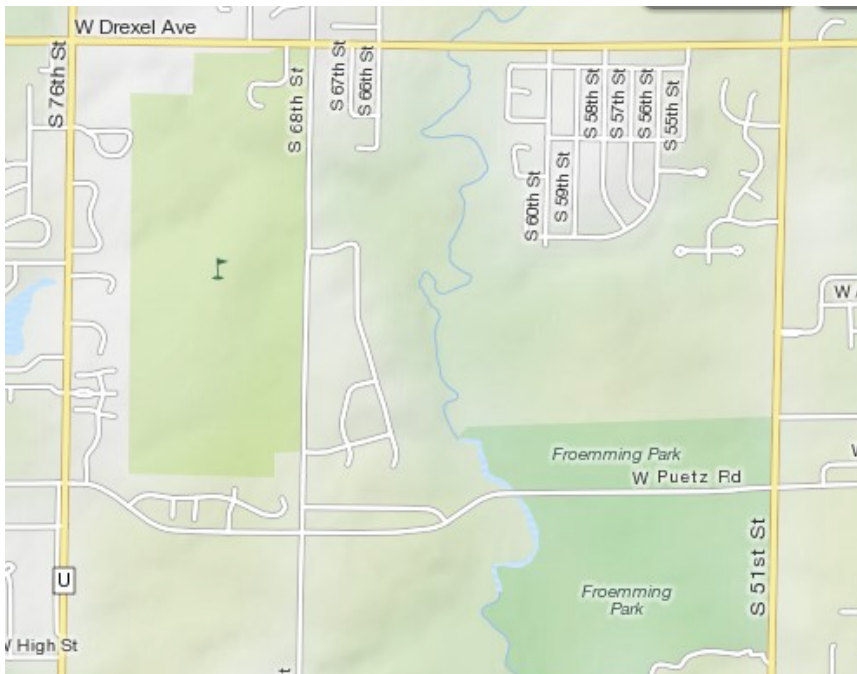
$$\begin{aligned}
 a^2 + b^2 &= c^2 \\
 90^2 + 90^2 &= c^2 \\
 8100 + 8100 &= c^2 \\
 16200 &= c^2 \\
 127.28 \text{ ft} &= c
 \end{aligned}$$



Television sets are generally measured diagonally, thus classifying them as 40 inches, 46 inches or 50 inches. Suppose you have an entertainment center and the shelf for the TV is 36 in. long and 32 in. high. How big of a TV can you get?



$$\begin{aligned}
 a^2 + b^2 &= c^2 \\
 36^2 + 32^2 &= x^2 \\
 1296 + 1024 &= x^2 \\
 \sqrt{2320} &= \sqrt{x^2} \\
 48.17 \text{ in.} &= x
 \end{aligned}$$



**Dylan and Tator Tot are meeting at the skate park on the corner of Drexel and 76th Street. Dylan is on Drexel and is 8 miles away. Meanwhile, Tator Tot is on 76th Street 7 miles away. How far away are they from each other?**

# *Planner Time*